

## YEAR 1874

Seven storms were identified as having occurred in 1874. Tracks for these storms are presented in Fig. 4.

### Storm 1, 1874 (Jul. 2-4).

The following information was found in relation to this storm:

- 1) The first barometric depression originating in the tropics this season was attained by considerable rain on the Gulf coast (Monthly Weather Review, Jul. 1874).
- 2) Map showing the storm near 27.5 degrees N., 90.5 degrees W. in the morning of Jul. 3 and near 28.0 degrees N., 95.0 degrees W. in the morning of Jul. 4 (Monthly Weather Review, Jul. 1874).
- 3) The storm was minimal; it caused damages at Corpus Christi (Dunn and Miller, 1960).

The track for the storm displayed in Neumann et al. (1993) practically reproduced the one shown in the Monthly Weather Review, Jul. 1874, with the exception that an earlier position about 26.7 degrees N., 86.7 degrees on Jul. 2 is shown along the track. The author of this study has adopted the track in Neumann et al. (1993) and has reproduced it in Fig. 4.

The author believes that this storm did not reach hurricane status.

### Storm 2, 1874 (Aug. 3-7).

The following information was found in relation to this storm:

- 1) Steamship "Frankfurt" (coming to New York from Bremen and Le Havre). Aug. 5, had a strong gale from S.E. to N.N.W. with a high cross-sea running (The New York Times, Aug. 9, 1874, p.8, col.6).
- 2) Brig "Salario" (from Cow Bay, C.B. in 9 days). Aug. 5 and 6, had a heavy gale from S.E. to N.W. (The New York Times, Aug. 15, 1874, p.8, col.6).
- 3) Schr. "Wm. L. Burroughs" (from Le Havre, Jul. 2). Aug. 6, had a terrific gale from E.N.E to N.N.E. (The New York Times, Aug. 14, 1874, p.8, col.7).
- 4) A cyclone passed to the S. and E. of Nova Scotia on Aug. 6. A sailing vessel reported having a hurricane for 8 hours in that vicinity, the wind changing from W. to N. (Monthly Weather Review, Aug. 1874).
- 5) A map showing the storm near 41 degrees N., 63 degrees W. in the morning of Aug. 6 and over or near Newfoundland in the morning of Aug. 7 (Monthly Weather Review, 1874).
- 6) Steamship "America" (coming from Southampton, Jul. 28). Aug. 8, had a very heavy gale and tremendous seas from S.S.W. (The New York Times, Aug. 10, 1874, p.8, col.6).

Author's note: The day given is obviously wrong because the ship could not have sailed from S. of Nova Scotia to New York in one day, where it should have arrived on Aug. 9. The "America" probably encountered the gale on Aug. 6.

Based on the information above, the track shown in Neumann et al. (1993) was found to be quite reasonable over the period Aug. 5-7. Due to the lack of information no evaluation of the above mentioned track was possible prior to Aug. 5. Therefore, the author has adopted the whole track shown in Neumann et al. (1993) and has reproduced it in Fig. 4.

Storm 3, 1874 (Aug. 29- Sept. 7).

This is the same storm Neumann et al. (1993) show as Storm 4, 1874.

Information about this storm turned out to be abundant: 1) Bark "Colchaqua". Aug. 29, lat. 13 N., long. 28 W., had a gale from the W. lasting 18 hours (The New York Times, Oct. 3, 1874, p.12, col.4). Author's note: The bark spent 122 days coming to New York from Iquique (South America) and crossed the Equator at long.32 20 W. on Aug. 20. Therefore, lat. 28 W. is in error and should read lat. 38 W. 2) Bark "Frederica" sustained damages in a squall off Bermuda on Sept. 4 (The New York Times, Sept. 20, 1874, p.8, col.4). 3) Bark "Carmen" was spoken at lat. 19 N., long. 58 W. on Sept. 6, having been dismasted in a hurricane on Sept. 4. The bark was going from Tenerife to Havana (The New York Times, Sept. 17, 1874, p.12, col.6). 4) Bark "Antilla" Sept. 5, lat. 30 N., long. 65 W., had a hurricane from N.N.E. to N. and W.N.W., lasting 12 hours (The New York Times, Sept. 18, 1874, p.8, col.6). 5) Ship "Gitana". Sept. 5, about 30 miles S.W. of Bermuda, encountered a hurricane, the worst the captain saw in 27 years. It lasted from 7 A.M. to 11 P.M. Wind E.S.E. then shifted to E. and the center passed just east of the ship (The New York Times, Sept. 17, 1874, p.12, col.6). 6) Schr. "Northern Home". Sept. 5, lat. 33 37 N., long. 67 31 W., encountered a hurricane (The New York Times, Sept. 17, 1874, p.12, col.6). 7) Bark "Consul Paten". Sept. 6, had a hurricane from S.W. to W., lasting 12 hours (The New York Times, Sept. 20, 1874, p.8, col.4). 8) Bark "Alba" (from Italy, Aug. 6). Sept.6, had a hurricane from E.S.E. to S.W., lasting 20 hours (The New York Times, Sept. 18, 1874, p.8, col.4). 9) Bark "San Luis". Sept. 6, lat. 36 N., long. 66 W., had a hurricane from S.E. to S.W., lasting 12 hours (The New York Times, Sept. 18, 1874, p.8, col.6). 10) Bark "A.G. Pope". Sept. 6, lat. 40 20 N., long. 66 15 W., encountered a hurricane from S.E. going around by N. to N.W., lasting 8 hours (The New York Times, Sept. 14, 1874, p.8, col.6). 11) Ship "Martha". Sept. 7, lat. 40 N., long. 64 W., had a hurricane from S.E. veering to N.W., lasting 12 hours (The New York Times, Sept. 16, 1874, p.8, col.6). 12) Steamship "Frisia", lat. 42 N., long. 63 W., encountered a very heavy storm. Wind veering from S.E. to N.W. (The New York Times, Sept. 10, 1874, p.12, col.6). Author's note: No date was given but the ship-storm encounter should have occurred on Sept. 7 because the ship reported positions near lat. 44 N., long. 54 W. on Sept. 6 and near lat. 41 N., long. 66 W. on Sept. 8. 13) Ship "Auguste". Sept. 7, lat. 42 N., long. 63 W., had a hurricane from S.E. to W.N.W., lasting 8 hours (The New York Times, Sept. 14, 1874, p.8, col.6). 14) Bark "Antonio Maria". Sept. 7, lat. 40 30 N., long. 63 W., encountered a hurricane from S.E. veering to N.W., lasting 10 hours (The New York Times, Sept. 17, 1874, p.12, col.6). 15) Bark "Ranger". Sept. 7, lat. 40 26 N., long. 62 W., hurricane from E.S.E to S.W., lasting 10 hours (The New York Times, Sept. 17, 1874, p.12, col.6). 16) Ship "Helios". Sept. 7, lat. 42 30 N., long. 62 59 W., had a hurricane from E.S.E to N.W., lasting 12 hours (The New York Times, Sept. 17, 1874, p.12, col.6). 17) Steamship "Bolivia". Sept. 7, lat. 42 08 N., long. 61 50 W., very heavy gale from S.E. veering to W.N.W. (The

New York Times, Sept. 10, 1874, p.12, col.6). 18) Bark "Florella". Sept. 7, lat. 40 N., long. 61 W., very severe gale from E.S.E. to W.S.W. (The New York Times, Sept. 18, 1874, p.8, col.6). 19) Steamship "Australia", lat. 42 N., long. 61 W., encountered a severe cyclone (The New York Times, Sept. 11, 1874, p.8, col.6). Author's note: The encounter should have occurred on Sept. 7 because the "Australia" reported positions near lat. 42 N., long. 55 W. on Sept. 6 and about 180 miles east of Sandy Hook on Sept. 9. 20) Ship "Great Western". Sept. 7, lat. 41 30 N., long. 60 W., hurricane from S.E. to N.W., lasting 12 hours (The New York Times, Sept. 11, 1874, p.8, col.6). 21) Steamship "State of Virginia". Sept. 7, 60 miles S. of Sable Island, hurricane from E.S.E. moderating to W. by S. It blew very hard from 10 A.M. to 8 P.M., with a terrific sea. Lowest barometer: 28.95 inches at 1 P.M. (The New York Times, Sept. 11, 1874, p.8, col.6). 22) Bark "Oroma". Sept. 7, hurricane from S.S.E. by N. to N.W., lasting 9 hours (The New York Times, Sept. 14, 1874, p.8, col.6). 23) Bark "Silo". Sept. 7, lat. 42 N., long. 60 W., had a hurricane from S.E. to N.W., lasting 12 hours (The New York Times, Sept. 16, 1874, p.8, col.6). 24) Bark "Gazelle". Sept. 7, lat. 43 10 N., long. 58 W., hurricane from S.E. to N.W., lasting 13 hours (The New York Times, Sept. 17, 1874, p.12, col.6). Bark "Agder". Sept. 7, off Cape Sable, hurricane from S.E. to N.W., lasting 10 hours (The New York Times, Sept. 17, 1874, p.12, col.6). 26) Bark "Samuel". Sept. 7, lat. 43 N. long. 58 W., hurricane from E.S.E. to N.W., lasting 12 hours (The New York Times, Sept. 19, 1874, p.12, col. 5 and 6). 27) Bark "Herman". Sept. 7, had a hurricane from S.E. veering to N. and N.W. (The New York Times, Sept. 22, 1874, p.8, col.6). 28) Washington, Sept 8, 1 A.M. A storm of moderate dimensions has apparently moved northeastward near Cape Breton (The New York Times, Sept. 8, 1874, p.1, col.5). 29) Halifax, Sept. 7. There was an unusual rainstorm today. It commenced about 1 A.M. this morning and continued for about 12 hours. In three and a half hours of the forenoon one inch of rain fell (The New York Times, Sept. 8, 1874, p.1, col.6). 30) Bark "Lily". Sept.8, lat. 44 N., long. 65 W., had an E.S.E. to N.W. hurricane for 8 hours (The New York Times, Sept. 17, 1874, p.12, col.6). Author's note: Sept. 8 is in error; the correct day should be Sept. 7. 31) Bark "Swallow". Sept. 8, lat. 41 25 N., long. 62 W., had a severe hurricane from S. to S.W. (The New York Times, Sept. 19, 1874, p.12, col. 5 and 6). Author's note Sept. 8 is in error; the correct day should be Sept. 8).

Based on the information above, the author of this study proposed some modifications along the track shown in Neumann et al. (1993) as for Storm 4, 1874, including its backward extension to the eastern Atlantic where, according to the report filed by the "Colchaqua" (item 1), the storm was located on Aug. 29. The only portion of the track in Neumann et al. (1993) which was accepted was the one near Nova Scotia and Newfoundland on Sept. 7. For previous days, the author's track used the following estimated 7 A.M. positions: Aug. 29, 14.0 degrees N., 36.5 degrees W.; Aug. 30, 15.3 degrees N., 40.5 degrees W.; Aug. 31, 16.7 degrees N., 44.7 degrees W.; Sept. 1, 18.3 degrees N., 49.3 degrees W.; Sept. 2, 20.5 degrees N., 54.0 degrees W.; Sept. 3, 23.0 degrees N., 58.0 degrees W.; Sept. 4, 26.5 degrees N., 61.5 degrees W.; Sept. 5,

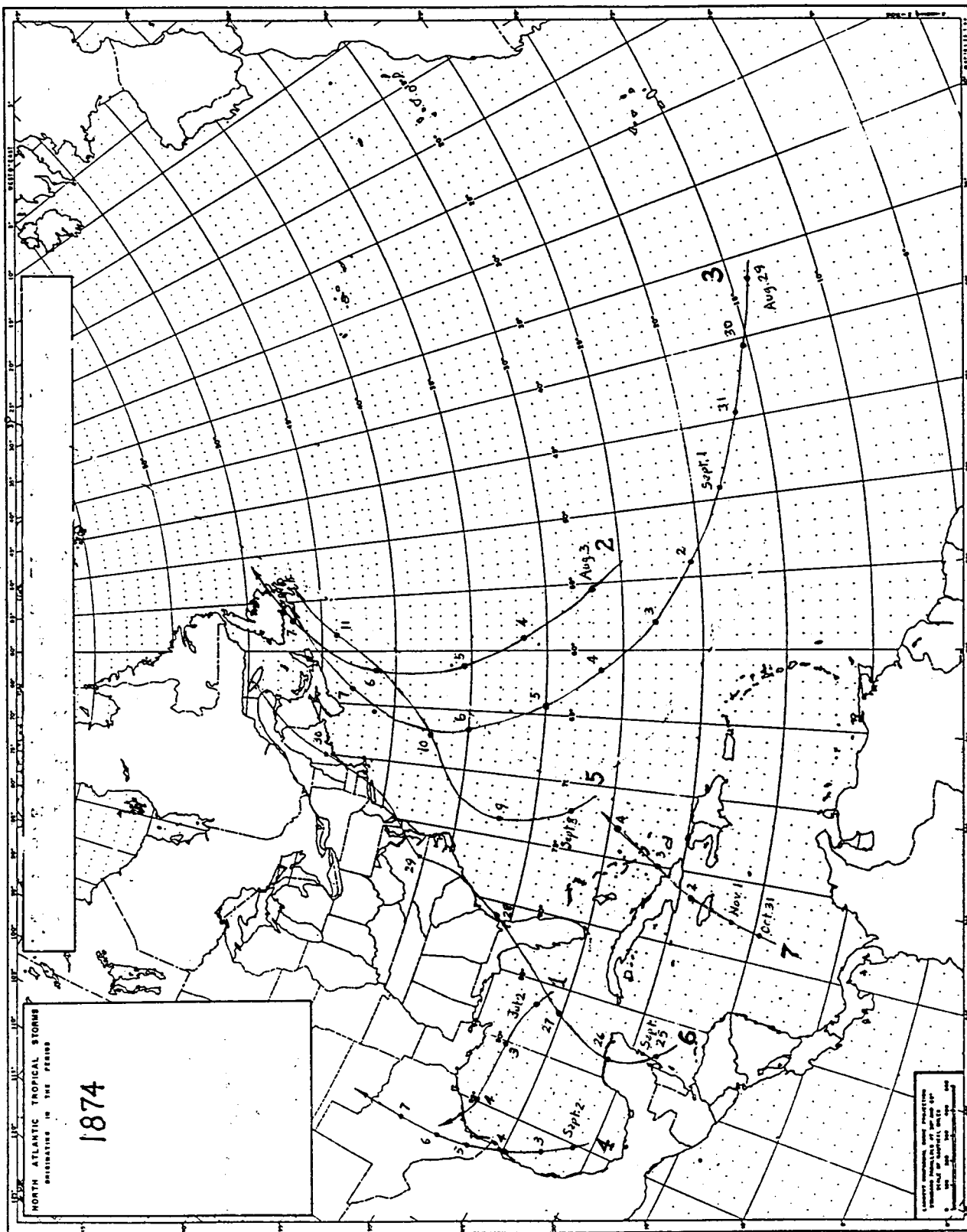


Fig. 4

30.0 degrees N., 64.3 degrees W.; Sept. 6, 35.0 degrees N., 66.7 degrees W. Positions for Sept. 4-5 took into account information in items 2) through 9); positions for the period Aug. 30- Sept. 3 were based on extrapolation along a smooth curve to the Aug. 29 position which, in turn, was based on item 1). The author's track for this storm is displayed in Fig. 4.

As a result of starting the track of this storm on Aug. 29 instead of on Sept. 2 (Neumann et al., 1993), this storm became Storm 3, 1874 instead of Storm 4, 1874 as shown in Neumann et al. (1993). Of course, this change also affected the chronological order of Storm 3, 1874 in Neumann et al. (1993) which becomes Storm 4, 1874 from now on.

The storm undoubtedly attained hurricane intensity, which is supported by a barometer reading of 28.95 inches reported by the "State of Virginia" (item 21) and by the description given by many other vessels.

#### Storm 4, 1874 (Sept. 2-7).

This is the same storm Neumann et al. (1993) present as Storm 3, 1874.

The following information was found in regard to this storm: 1) Storm on Sept. 3-6. Gulf coast of Mexico. Moved northnorthwestward into Texas (Tannehill, 1938). 2) Center of the storm struck Mexico. It was a minor storm on the Lower Texas coast (Dunn and Miller, 1960). 3) Galveston, Sept. 11. Brig. "F.H. Moore" arrived here last night and will come inside for repairs. She was dismasted near the mouth of the Brazos River during the gale of Sept. 4 (The New York Times, Sept. 12, 1874, p.7, col. 6). 4) Washington, Sept. 6, 1 A.M. The pressure has fallen decidedly in the Northwest and to a lesser extent in Texas. A storm is probably central in the southwestern portion of the latter State, and an easterly gale prevailed at Indianola during Saturday (The New York Times, Sept. 6, 1874, p.1, col.6). Author's note: It refers to Saturday, Sept. 5. 5) Diminishing S.E. winds prevail on the western Gulf coast with cloudy weather and southerly winds (The New York Times, Sept. 7, 1874, p.5, col.6). Author's note: This weather message is somewhat ambiguous because it mentions both S.E. and southerly winds.

The track for this storm which is shown in Neumann et al. (1993) as for Storm 3, 1874 was found to be consistent, in general, with the information contained in the above items and, therefore, was accepted without any modification. Such a track is reproduced in Fig. 4.

#### Storm 5, 1874 (Sept. 8- 11).

Tannehill (1938) has listed this storm as having occurred between Bermuda and Hatteras on Sept. 9. This location was found to be compatible with the track shown in Neumann et al. (1993). The author of this study has not found any additional information which could be definitively related to this storm. However, the ship "Titan", which arrived in New York from London on Sept. 24, reported having experienced a heavy gale on Sept. 12, which did

some damage to the vessel (The New York Times, Sept. 26, 1874, p.12, col.6). No position was given by the "Titan" and, therefore, it could not be determined whether or not this was the same storm the track in Neumann et al. (1993) shows to have ended near Newfoundland on Sept. 11.

In accordance with the above discussion, the author of this study has just adopted the track in Neumann et al. (1993) and reproduced it in Fig. 4.

#### Storm 6, 1874 (Sept. 25-30).

The following information was found in relation to this storm:

- 1) An area of low barometer is central in the eastern Gulf (The New York Times, Sept. 28, 1874, p.1, col.7).
- 2) From The Charleston News. At 9 o'clock (Sept. 28) the tide had risen so high that it covered all the wharves on the eastern part of the city to a depth of several feet. The work of destruction continued to 12:30 P.M. when the wind moderated for a short time and then shifted to the S. and W., blowing again with full force for about one hour (The New York Times, Oct. 3, 1874, p.3, col.4).
- 3) Wilmington. N.C., Sept. 29. One of the heaviest storms ever experienced here prevailed nearly all day yesterday. The storm measurably abated before midnight (The New York Times, Sept. 30, 1874, p.1, col.6).
- 4) Lowest barometer readings: Lake City, Fl., 29.40 inches at 4 A.M. Sept. 28; Charleston, S.C., 29.06 inches at 1 P.M. Sept. 28; Wilmington, N.C., 29.15 inches at 6:15 P.M. Sept. 28. Highest winds were as follows: Tybee Island, E., 60 mph; Charleston, N.C., E., 51 mph and N.W., 48 mph; Wilmington, N.C., S.E., 45 mph and S.W., 50 mph; Cape Hatteras, S.E., 75 mph (Monthly Weather Review, Sept. 1874).
- 5) Ship "City of New York". Had heavy gales from lat. 29 30 N. On the morning of Sept. 28, the gale commenced from E., changing to S.E. and W. and back to S.W., blowing very heavily. Sept. 29, 5 P.M. passed Hatteras; since then very heavy N.W. and N. winds (The New York Times, Oct. 2, 1874, p.12, col. 6 and 7).
- 6) Schr. "Emma D. Finney". Sept. 28, off Cape Lookout, hurricane from S.W. veering to W. and lasting 24 hours (The New York Times, Oct. 5, 1874, p.12, col.7).
- 7) Steamship "Morro Castle". Sept. 28, off Cape Lookout, severe gale from S.S.E. going around to S.W. Another gale from W. on Sept. 29 (The New York Times, Oct. 2, 1874, p.12, col. 6 and 7).
- 8) Ship "Cicero". Sept. 29, had a heavy gale. Wind from S.W. veering to N.W. (The New York Times, Oct. 7, 1874, p.8, col.6).
- 9) Brig "Veteran". Sept. 30, heavy N.W. gale, lasting 12 hours (The New York Times, Oct. 3, 1874, p.12, col.4).
- 10) Lewis, Delaware, Sept. 30. The weather was clear after a heavy blow from N.N.W. last night (The New York Times, Oct. 1, 1874, p.12, col.6).
- 11) New York harbor, sunset Sept. 29, wind N. fresh, thick weather (The New York Times, Sept. 30, 1874, p.8, col.6).
- 12) Some lowest barometer readings: New York, 29.37 inches at 11 P.M. Sept. 29; Boston, 29.13 inches at 4 A.M. Sept. 30; Portland, Me., 29.05 inches at 7:35 A.M. Sept. 30; Father Point, 28.94 inches at 4:35 P.M. Sept. 30 (Monthly Weather Review, Sept. 1874).

In general, the track for this storm which is shown in Neumann et al. (1993) was found to be in good agreement with most information contained in items 1) through 12). However, the author

of this study noticed that items 2) and 4) indicate that the storm center passed very close to Charleston, whereas Neumann et al. (1993) show the storm to have passed some 40 miles to the east of that city. Therefore, a slight adjustment to the west has been introduced along the author's track (Fig. 4) in order to conform with the available information for Charleston.

Regarding the intensity this storm attained, Tannehill (1938) indicated that it developed great force on the Carolina coast whereas Dunn and Miller (1960) stated that it was a minimal hurricane. On the basis of the lowest pressure readings and highest wind speeds in items 4) and 12), the author of this study believes that, at the best, it was a moderate hurricane and, most likely, a weak one.

Dunn and Miller (1960) have indicated that this storm was the first hurricane drawn on a weather map prepared by the U.S. Signal Service and that the map for the morning of Sept. 28 showed the storm off the Georgia coast. Tannehill (1938) has reproduced the above mentioned map.

#### Storm 7, 1874 (Oct. 31- Nov. 4).

The following information was found in connection with this storm: 1) Kingston, Jamaica, Nov. 6. A hurricane passed over the island Sunday afternoon (Nov. 1) and caused considerable damage. In this harbor there were a few small wrecks and several lives were lost (The New York Times, Nov. 9, 1874, p.1, col.6). 2) Kingston, Jamaica, Nov. 6. The hurricane of Nov. 6 (it should read Nov. 1) swept through Portland and St. Ann's with great violence. Among the vessels damaged was the American brigantine "Helen" at St. Ann's (The New York Times, Nov. 11, 1874, p.1, col.6). 3) A dispatch from Kingston, Jamaica, Nov. 5, listed 17 vessels wrecked or destroyed in the hurricane (The New York Times, Nov. 20, 1874, p.5, col. 3). 4) On Sunday (Nov. 1) about 1 P.M. the wind began to blow in Kingston from the N.W. with great violence but within one hour afterwards it had veered around to E. and S. At between 5 and 6 o'clock in the evening, the storm burst in all its fury. The indications of the barometer had given warning of the impending visitation. The appearance of the sea was truly grand; for a considerable time the wind blew from the S.W. point. After raging for 3 hours, the storm gradually subsided and died out by midnight (The Times, London, Nov. 30, 1874, p.10, col.4). 5) In the vicinity of Crooked Island and Watling passages (Bahamas) the steamer "Atlas", from New York to Jamaica, encountered very heavy weather of hurricane form and violence. It commenced at 6 o'clock on Tuesday morning (Nov. 3) and lasted for 24 hours. The sea made a clear breach over the ship (The Times, London, Nov. 30, 1874, p.10, col.4).

The track for this storm which is shown in Neumann et al. (1993) was found to be in good agreement with information contained in items 1) through 4). However, the track was extended to the period Nov. 3-4 by making use of the marine information in item 5). Estimated 7 A.M. positions for the two-day period were as follows: Nov. 3, 21.5 degrees N., 75.0 degrees W.; Nov. 4, 24.5 degrees N., 73.0 degrees W. The author's track is displayed in Fig. 4.

The storm apparently reached hurricane intensity. However, indications are that the storm weakened over Jamaica and crossed over eastern Cuba just as a minimum or a moderate tropical storm before reintensifying over the Bahamas. Surprisingly, no record of it has been found in Sarasola (1928), Martinez-Fortun (1942) and Academia de Ciencias (1870), which contain catalogs of Cuban storms.